

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB2005/000209A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 E21B34/04 E21B33/035 E21B33/043 E21B34/10

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 E21B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/47864 A (FMC CORPORATION; ANDERSEN, TORE; BREDA, JOEREN; GATHERAR, NICHOLAS; GR) 17 August 2000 (2000-08-17) page 11, lines 12-18 claims 6,8 figure 2a	1,14,27, 28,38-41
X	US 5 992 527 A (GARNHAM ET AL) 30 November 1999 (1999-11-30) column 2, lines 11-36 column 3, lines 45-61 figure 1	1,14,27, 28,38,39

 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

## \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

3 June 2005

Date of mailing of the international search report

17 JUN 2005

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 357 529 B1 (KENT RICHARD ET AL) 19 March 2002 (2002-03-19) column 2, line 57 - column 3, line 16 column 4, lines 25-28 figures 1,2	1,27,28
X	US 5 971 077 A (LILLEY ET AL) 26 October 1999 (1999-10-26) column 2, lines 9,10 column 2, lines 32-41 figure 1	1,27,28
X	US 6 186 237 B1 (VOSS, JR. ROBERT K ET AL) 13 February 2001 (2001-02-13) abstract figure 1	1,2,27, 28
X	US 2002/153143 A1 (COMPTON DEWEY CRAIG ET AL) 24 October 2002 (2002-10-24) abstract figures 1-4	1,2,4, 27,28
X	GB 1 419 850 A (MCEVOY OILFIELD EQUIPMENT CO) 31 December 1975 (1975-12-31) page 3, lines 36-40 page 3, lines 47-58 figure 1	1,2
A	US 6 170 578 B1 (EDWARDS JEFFREY CHARLES ET AL) 9 January 2001 (2001-01-09) column 5, lines 8-10 figure 3	1,14,27, 28,38,40
X	US 6 508 309 B1 (FRENCH CLIVE JOHN) 21 January 2003 (2003-01-21) column 5, line 8 - column 5, line 62 figures 1-5	42-47
X	US 2001/007284 A1 (FRENCH CLIVE JOHN ET AL) 12 July 2001 (2001-07-12) paragraphs '0054! - '0060! claim 1 figures 1-6	47
X	US 6 328 109 B1 (PRINGLE RONALD E ET AL) 11 December 2001 (2001-12-11) claim 1 figures 9d,10d	47

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### Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:  
**1, 2, 4, 14, 27, 28, 38-47**
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1,2,4,14,27,28,38-41

A completion suspension valve system and a method of remotely suspending and desuspending a well.

2. claims: 3,5,6,13,19-22,26,36,37

A ball element and ball valve seat having an offset throughbore.

3. claims: 7,8,16,17,23,29-32,34

A ball valve actuating mechanism.

4. claims: 9-12,15,18,24,25,33,35

A system and method to move a valve to the open position and lock the valve in that position.

5. claims: 42-47

A completion suspension valve system comprising a flapper valve that can be locked in the closed position

**INTERNATIONAL SEARCH REPORT**

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